

OBSERVATIONS ON PAPUAN LAND AND FRESH-
WATER SHELLS, WITH DESCRIPTIONS OF NEW
SPECIES FROM NEW GUINEA AND WESTERN
AUSTRALIA.

BY C. F. ANCEY.

(Communicated by C. Hedley, F.L.S.)

(Plate xxxvi.)

Some of the shells mentioned in the following paper were forwarded to me, a little time ago, by W. W. Froggatt, Esq., who collected them during his journeys to New Guinea and N. W. Australia; a few others were obtained from a German dealer and come from the portion of the island belonging to Germany.

Besides these, I avail myself of the opportunity of speaking about Papuan species recently described by MM. Smith, Brancsik and myself, which seem to deserve special attention.

First, a paper published by Dr. C. Brancsik (*Contributiones ad faunam Molluscorum insulæ Papua*) in the "Naturwissenschaftlichen Vereines des Trencsener Comitates" has appeared in 1895, I think, after the publication of my pamphlet on the same subject, incorporated in the "Proceedings of the Linnean Society of New South Wales" for 1895. In this paper Dr. Brancsik described (p. 222) and figured *Hemiplecta divergens*, which, although somewhat different in shape and elevation of spire from my *H. granigera*, appears to be very close to it, if not quite identical. The same author has named *Pupinella luteola* (p. 225) another species which is undoubtedly identical with *P. Fultoni*, Smith (*Ann. and Mag. of Nat. Hist.*, 1895, November, Vol. xvi. p. 365, Pl. xx. fig. 17). Which name has the priority is questionable. I

must mention also that I got from Dr. Staudinger *Pupina enoptrum*, von Möll., which, upon examination, proved not to differ from Smith's *Pupina nasuta* (Smith, *loc. cit.*, p. 364).

1. *SULCOBASIS LEPTOCOCHLEA*, Ancey, n.sp.

(Plate xxxvi., fig. 1.)

Testa globosa, pro sectione tenuiuscula, pervie profundeque umbilicata, brunneo-rufa, unicolor, lineis incrementi tenuibus et obliquis per longitudinem sculpta et sulcis obsolete spiralibus, in ultimo anfractu et inferne præsertim exarata, subnitida. Spira conoidea, satis producta, apice sat minuto, obtusiusculo. Anfractus 6 convexi, regulariter accrescentes, sutura impressa; ultimus magnus, rotundatus, tumidus, antice sublonge deflexus, infra submalleatus, circa umbilicum apertum et modicum subcompressus. Apertura leviter obliqua, basi antrorsum protracta, sublunata, rotunda, fauce purpurascens. Peristoma ad dextram vix, infra magis expansum, ad basin et præsertim ad columellam dilatatum, purpurascens, margine columellari candido, late reflexo, cum supero convergente, supero et extero regulariter incurvis. Callum parietale nitidum.

Diam. max. 44, min. 39, alt. 41, alt. apert. 23 mill.

Hab.—German New Guinea.

This handsome shell has been sent me as "*Sulcobasis*, nov.sp.," and I am not aware that it has been described. My unique specimen, although dead, is not liable to be confounded with any Papuan species I am acquainted with. It is probably more nearly related to *Sulcobasis Beatricis* (Fauna Malac. della Nuova Guinea, p. 163, Pl. iv. fig. 14) than to *S. Rehsei*, v. Mart. (= *Gerrardi*, E. A. Smith) and *S. Minnegerodi*, Strub., of S.E. New Guinea, but it differs from *Beatricis*, of Tapparone-Canefri, of the Fly River, in being smaller, of lighter substance, in having a much higher spire, more slowly increasing volutions (6, not $5\frac{1}{2}$ as in *Beatricis*) and less numerous and conspicuous spiral sulcations. The shell is rather thin for the genus.

2. CHLORITIS MOELLENDORFFI, Ancey, n.sp.

(Plate xxxvi., fig. 7.)

Testa globoso-depressa, aperte pervieque umbilicata, lute ovel purpureo-fusca, setis brevibus in quincunciis dispositis undique hirsuta, haud nitida. Spira convexa, obtusa, plus minusve elevata. Anfractus 5 convexi, regulariter crescentes, sutura valde impressa; ultimus altus, rotundatus, tumidus, antice paulatim descendens, circa umbilicum circularem et mediocrem vix compressus, minime angulatus. Apertura subobliqua, basi leviter antice protracta, regulariter rotundato-sublunata. Peristoma subincrassatum, extus lividum, intus purpurascens, undique breviter expansum, reflexiusculum, marginibus conniventibus, basali reflexo, columellari dilatato.

Diam. max. $22\frac{1}{2}$, min. vix 18, alt. 15, alt. apert. $11\frac{1}{2}$ mill.

Hab.—Tuom, German New Guinea.

I venture to separate this species from *C. eustoma*, Pfr., which is absolutely the same as *C. erinaceus*, Pfeiffer (*vide* E. A. Smith, Proc. Zool. Soc., June 2, 1885, p. 594), and which is, as far as I can ascertain, peculiar to the Solomon Islands, not only on account of the very different locality, but also of the characters which appear to be fairly constant in both forms. *Chloritis Möllendorffi* always has a convex, not planulate, spire; it has not the last whorl roundly shouldered as in *eustoma*; the aperture is not so oblique and the outer lip somewhat thinner; besides the umbilicus, although of about the same size, is not obtusely keeled as in that species, and the margins of the peristome not so remote from each other.

Many years ago I received from Mr. John Brazier a very similar shell from New Britain labelled *Helix discordialis*, Fér., but it has but little to do with the latter. The true *discordialis* has a widely expanded peristome, it is more depressed, and its spire also is less elevated.

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3. TRACHIA FROGGATTI, Ancey, nov.sp.

(Plate xxxvi., fig. 2.)

Testa lenticularis, biconvexa, depressa, solidiuscula, mediocriter umbilicata (umbilicus ex parte tectus), superne undique denseque granulata, granulis infra carinam ultimi anfractus laevioribus, basi circa umbilicum paulatim evanidis. Spira convexa vel conoideo-convexa, obtusa, parum elevata. Anfractus 5 convexi, regulariter et sat lente accrescentes, sutura impressa; ultimus carina mediana acuta exsertaque cinctus, basi laevior, pallidus, lineis incrementi sculptus, antice leniter deflexus. Apertura obliqua, extus angulata, lunato-suboblonga, transversa. Peristoma incrassatum, album, undique expansum et reflexum, ad columellam dilatatum, marginibus parum conniventibus, callo tenui junctis. Color stramineo-carneus, infra carinam albidulam fuscescens, basi albidus.

Diam. maj. $16\frac{1}{4}$, min. 13, alt. $7\frac{1}{2}$ -8 mill.

Hab.—Oscar Range, N.W. Australia (Coll. W. W. Froggatt).

Judging from the external appearance only, I should have located this remarkable new species in *Plectotropis*, a group hitherto confined to Eastern Asia and the adjacent islands, including Malaysia, for it much more resembles some Chinese and Japanese forms like *Helix trichotropis*, Pfr., *squarrosa*, Gould, than other Australian species, save perhaps *Helix Howardi*, Angas, also a keeled species from the interior of South Australia, which is located by Pilsbry in his section *Glyptorhagada*. Its peculiar shape, keel, granular surface, reflected peristome, lustreless aspect (except around the umbilicus) and colour may easily separate it from any of the *Helices* recorded from the same region by Mr. E. A. Smith (*vide* Proc. Malac. Soc. Vol. i. 1894, pp. 84-99).

4. TRACHIA ORTHOCHEILA, Ancey, nov.sp.

(Plate xxxvi., fig. 4.)

Testa orbicularis, depressa, nitida, umbilicata (umbilicus mediocris, vix ex parte tectus), lineis laevibus incrementi confertisque

tantum sculpta, supra fulvescens, passim obscure substrigata, ad suturam penultimi pallidior, zona peripherica albida sat angusta, infra late corneo-fulvescente marginata cingulata, basi lactescente-albida. Spira convexa, parum elevata, late subconoidea, obtusa. Anfractus 5 regulariter convoluti, lente accrescentes, convexiusculi, sutura impressa; ultimus depressus, initio tantisper subangulatus, leviter antice descendens, basi haud inflatus. Apertura obliqua, transverse oblonga, lunata. Peristoma album, incrassatum, anguste reflexum, marginibus parum conniventibus, basali subelliptico vel rectiusculo, paulo magis crasso, imo ad dextram interdum subtuberculifero, columellari leviter dilatato.

Diam. maj. 13-14, min. $11\frac{1}{4}$ - $12\frac{1}{2}$, alt. $6\frac{1}{4}$ -7 mill.

Hab.—Oscar Range, 100 miles inland, Derby, King's Sound, N.W. Australia (W. W. Froggatt).

From the several specimens kindly sent by Mr. Froggatt, it will be seen that the above described shell is very different from its ally, *Helix* ("Chloritis") *rectilabrum*, E. A. Smith (*loc. cit.*, p. 88, Pl. VII., fig. 14), said to have been found at Parry Harbour, N.W. Australia. It has nothing of the peculiar epidermis and granular surface of that species and is a shining shell, quite similar in texture and colour to *Campylæa ichtyomma*, of Austria. Moreover, it is easily distinguished from *rectilabrum*, which seems to be an unbanded species in the character of the basal edge which is not so rectilinear in *orthocheila* as in *rectilabrum* and often provided, at its junction with the right margin, with a somewhat tuberculous thickening.

I think this, as well as *T. Froggatti*, *monogramma*, *millepunctata*, *rectilabrum*, *Baudinensis*, *Collingei*, *cyclostomata* and *Tuckeri* belong rather to *Trachia* than to *Chloritis* and *Gonostoma*, in which genera Mr. E. A. Smith has located some of them.

5. TRACHIA MONOGRAMMA, Ancey, nov.sp.

(Plate XXXVI., fig. 3.)

Testa orbicularis, aperte pervieque sed mediocriter umbilicata, oleoso-nitens, obsolete lineis incrementi et oblique striatula, tenuis,

corneo-albidula, basi sublaetescens ad suturam penultimi dilute fuscula. Spira concolor, obtusa, depressa, parum elevata. Anfractus $4\frac{1}{4}$ regulariter sed celeriter accrescentes, convexi, sutura impressa; ultimus rotundatus, parum depressus, basi convexus, satis altus, antice longiuscula et perparum deflexus, supra medium zona fusca angustiore cinctus. Apertura ampla, distincte obliqua, rotundata, transverse subovalis, lunata. Peristoma expansiusculum, tenue, basi intus incrassatum, expansum, ad columellam magis dilatatum, album, marginibus subconniventibus.

Diam. maj. $15\frac{1}{2}$, min. $12\frac{1}{2}$, alt. $8\frac{1}{2}$ mill.

Hab.—Oscar Range, with the preceding species (W. W. Froggatt).

A single specimen was sent, and it much differs from any other W. Australian species enumerated by Mr. E. A. Smith, the nearest allies perhaps being *Helix millepunctata*, Sm., (from Baudin and Cassini Islands), and *H. Bathurstensis*, Sm., (from Heywood and Bathurst Islands), but they differ much in texture, colour, sculpture, and number of whorls. *T. monogramma* looks indeed very much more like some Asiatic species (*T. propinqua* and others) than any Australian species known to me. It resembles *Helix similis*, but is thinner, more depressed and certainly belongs to another group.

In the lot of shells obtained by Mr. Froggatt there were also specimens of the following:—

RHAGADA BURNERENSIS, *E. A. Smith.*—Oscar Range, W. Australia. The examples agree pretty well with the original diagnosis, but the ground colour is not white, but pale greyish-brown, luteous-brown towards the aperture and the suture is margined with a fulvous line. The peristome also is fulvous.

I think this and the allied species are better placed in *Rhagada* than in *Hadra*, as Mr. Smith suggested, although they lack the characteristic markings of that genus.

RHAGADA REINGA, *Gray.*—Oscar Range. All exhibit the median brown line; the other ones are quite variable. One example is much smaller than the typical ones, measuring only 12 mill. in diameter, while the largest measures 17 mill.

SUCCINEA SCALARINA, *Pfeiffer*.—Lennard River, 100 miles inland from Derby, W. Australia.

VIVIPARA DECIPIENS, *Tapp.-Can.*—Two specimens said by Mr. Froggatt to have been taken by him in the Lennard River with the following species, but this may prove to be a mistake, as both are described from shells collected in the Fly River, British New Guinea, where Mr. Froggatt also probably found his specimens.

VIVIPARA (GLAUCOSTRACIA) PAULUCCIANA, *Tapp.-Can.*—This is a very remarkable species of *Vivipara*. Of the two specimens sent one contained the operculum, and in the last whorl there were two young globular and naticoid shells, very thin, spirally striate, consisting of about 3 whorls and keeled above the periphery; hence it may be inferred that *Vivipara Paulucciana* is viviparous like the typical forms; the operculum, of a reddish-purple hue, is not dissimilar from that of the ordinary species; however the shell differs very much in its *Lacunoid* shape, keeled umbilical area and umbilicus from that of typical *Vivipara*, and forcibly reminds one of the Indo-Chinese genus *Chlorostracia*, Mab.,* which, however, belongs to another family, and I should suggest for it the subgeneric name *Glaucostracia*.

PLOTIA PAGODA, *Lea*.—Fly River.

PYTHIA nov.sp.?—Fly River. Probably a new species, although I have a specimen similar to the two found by Mr. Froggatt, and also from the Fly River, labelled *Pythia undata*, Lesson. The present shell is imperforate and allied to *Pythia obscura* and *latidentata*, of Tapparone-Canefri (Fauna Malac. della Nuova Guinea, Suppl. I. p. 48-50, Pl. i. fig. 14-15 and 12), thus falling into the group B of T. Canefri, but it differs much from these as well as from *P. Wallacei* and *imperforata*, also recorded from Papua. It is a rather broad shell with a yellowish peristome and furnished with peculiar small denticles seeming to be constant between the larger ones on the palatal lamina.

* Mabile, in Bull. Soc. Malac. France, vi. Juin, 1889, p. 309-314, with Pl. VIII.

NOTE BY C. HEDLEY.—The paper in which Mr. Ancey described *H. granigera*, &c., was published by this Society, November 18, 1895; the date of Dr. Brancsik's paper I am unable to ascertain. Some of Mr. Froggatt's West Australian land shells have been already noted in the Proc. Malac. Society I. p. 259. In proposing a new subgenus for *Vivipara paulucciana*, I am inclined to think that my friend has overlooked the close affinity to *Larina* of Adams.

EXPLANATION OF PLATE.

Fig. 1.—*Sulcobasis leptocochlea*, n.sp.

Fig. 2.—*Trachia Froggatti*, n.sp.

Fig. 3.— „ *monogramma*, n.sp.

Fig. 4.— „ *orthocheila*, n.sp.

Figs. 5-6.—*Pupina Beddomei*, Anc. (see Proceedings 1895, p. 379).

Fig. 7.—*Chloritis Möllendorffi*, n.sp.